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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,434	10/02/2003	Harold Carr	5681-64301	9013

58467 7590 11/01/2007

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EXAMINER	
ANYA, CHARLES E	
ART UNIT	PAPER NUMBER
2194	
MAIL DATE	DELIVERY MODE
11/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

mN

Office Action Summary	**Application No.** 10/677,434	**Applicant(s)** CARR, HAROLD	
	Examiner Charles E. Anya	**Art Unit** 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 15 August 2007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-11 and 23-57 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-11 and 23-57 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 and 23-57 are pending in this application.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 47-57 are not directed to statutory subject matter.**

3. Claims 47-57 according to Applicant's disclosure, page 39 lines 13-20, the computer-accessible storage medium is not limited storage medium, instead it is defined to include both storage medium (e.g. floppy disk, a hard disk drive, a RAM, CD-ROMSs, DVD-ROMs) and transmission medium (e.g. signal bearing media, transmission-type media), as such the claims are not limited to statutory subject matter.

To overcome this type of 101 rejection the claims need to be amended to include only the physical computer media and not a transmission media or other non-functional media.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1,2,4-11 and 23-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,139,811 B2 to Lev Ran et al. in view of U.S. Pat. No. 6,282,581 B1 to Moore et al.

5. As to claim 1, Lev Ran teaches a system, comprising: a processor; and a memory comprising program instructions, wherein the program instructions are executable by the processor to implement a remote procedure call (RPC Client Col. 56 Ln. 12 – 67 figure 12) system comprising: a presentation block configured to present data types (Application Transport Layer 46 "...RPC request messages..." Col. 56 Ln. 19 – 25, "...java object...object class or type" Col. 58 Ln. 40 – 67, "...empty RPC request object..." Col. 62 Ln. 5 – 16) and Application Programming Interfaces (APIs) available to a program on the system (Application Transport Layer 46 "...simple API..." Col. 56 Ln. 36 – 39); an encoding block configured to encode representations of those data types as outgoing messages on an interconnect (Data Encapsulation Layer 164 Col. 57 Ln. 1 – 7, Col. 58 Ln. 36 – 52, Step 208 Col. 62 Ln. 17 – 18); a protocol block configured to frame the encodings to denote the intent of the outgoing messages (RPC Protocol manager 176 Col. 61 Ln. 53 – 59); and a transport block configured to move the encoded and protocol frame outgoing messages from the system to a remote system over the interconnect (Transport Layer 166 Col. 57 Ln. 8 – 30, Step 210 Col. 62 Ln. 19 – 21).

Lev Ran is silent with reference to the functionality of each said block is isolated from the functionality of the other said blocks in the remote procedure call system so that program instructions for each said block can be replaced or modified without replacing or modifying program instructions for any of the other said blocks.

Moore teaches the functionality of each said block is isolated from the functionality of the other said blocks in the remote procedure call system so that program instructions for each said block can be replaced or modified without replacing or modifying program instructions for any of the other said blocks ("...dynamic..." Col. 7 Ln. 40 – 49, "...dynamically..." Col. 21 Ln. 30 – 36, Col. 22 Ln. 9 – 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Lev Ran with the teaching of Moore because the teaching of Moore would improve the system of Lev Ran by providing a dynamic programming method of solving problems exhibiting the properties of overlapping subproblems and optimal substructure that takes much less time than naive methods.

6. As to claim 2, Lev Ran teaches the system as recited in claim 1, wherein the transport block is further configured to receive encoded and protocol framed incoming messages from the remote system over the interconnect ("...RPC response..." Col. 64 Ln. 38 – 42); wherein the protocol block is further configured to determine the intent of the encoded and protocol framed incoming messages (RPC Protocol manager 176 Col. 61 Ln. 53 – 59); wherein the encoding block is further configured to decode

representations of data types from the incoming messages ("...decoding..." Col. 57 Ln. 1 – 7, Step 216 Col. 62 Ln. 24 – 28); and wherein the presentation block is further configured to provide, the data types from the incoming messages to the program on the system (Application Transport Layer 46 "...RPC request messages..." Col. 56 Ln. 19 – 25, "...java object...object class or type" Col. 58 Ln. 40 – 67, "...empty RPC request object..." Col. 62 Ln. 5 – 16).

7. As to claim 4, Lev Ran teaches the system as recited in claim 2, wherein, to determine the intent of the encoded and protocol framed incoming messages, the protocol block is further configured to determine if the incoming messages are error messages (RPC Protocol manager 176 "...application failure...lost messages...out-of-order..." 176 Col. 43 – 59, Step 246 Col. 63 L. 34 – 37, Col. 65 Ln. 59 - 67).

8. As to claim 5, Lev Ran teaches the system as recited in claim 1, wherein the presentation block is further configured to communicate errors from the remote system to the program on the system (Step 240 Col. 63 Ln. 60 – 67, "...notified..." Col. 66 Ln. 6 – 14).

9. As to claim 6, Lev Ran teaches the system as recited in claim 1, wherein the APIs are configured to provide an interface to the remote procedure call system to the program on the system (Application Transport Layer 46 "...simple API..." Col. 56 Ln. 36 – 39).

10. As to claim 7, Lev Ran teaches the system as recited in claim 1, wherein, to encode representations of those data types as outgoing messages on an interconnect, the encoding block is further configured to convert representations of data provided by the program to representations of data for use by the remote procedure call system ("...conversion..." Col. 58 Ln. 36 – 67).

11. As to claim 8, Lev Ran teaches the system as recited in claim 1, wherein, to encode representations of those data types as outgoing messages on an interconnect, the encoding block is further configured to generate a text encoding of the data types ("...XML..." Col. 58 Ln. 40 – 58, Col. 60 Ln. 1 – 11).

12. As to claim 9, Lev Ran teaches the system as recited in claim 1, wherein, to encode representations of those data types as outgoing messages on an interconnect, the encoding block is further configured to generate a binary encoding of the data types ("...binary..." Col. 58 Ln. 40 – 58, Col. 60 Ln. 1 – 11).

13. As to claim 10, Lev Ran teaches the system as recited in claim 1, wherein, to frame the encodings to denote the intent of the outgoing messages; the protocol block-is-further configured, to denote if the outgoing messages are request messages or response messages ("...always associated..." Col. 64 Ln. 38 – 42).

14. As to claim 11, Lev Ran teaches the system as recited in claim 1, wherein the transport block is further configured to move the encoded and protocol framed outgoing messages from the system to the remote system over the interconnect using TCP/IP ("...TCP..." Col. 57 Ln. 26 – 30, Col. 64 Ln. 5 – 23).

15. As to claims 23,34,36 and 47, see the rejection of claim 1 above.

16. As to claims 26,35,39 and 50, see the rejection of claim 2 above.

17. As to claims 27,40 and 51, see the rejection of claim 4 above.

18. As to claims 28,41 and 52, see the rejection of claim 5 above.

19. As to claims 29,42 and 53, see the rejection of claim 6 above.

20. As to claims 30,43 and 54, see the rejection of claim 7 above.

21. As to claims 31,44 and 55, see the rejection of claim 8 above.

22. As to claims 32,45 and 56, see the rejection of claim 9 above.

23. As to claims 33,46 and 57, see the rejection of claim 11 above.

24. As to claim 24, Lev Ran teaches the remote procedure call system as recited in claim 23, wherein the server comprises: a server-side transport block configured to receive the encoded and protocol framed request messages from the client over the interconnect (figure 16 "...RPC Server 168...Transport Layer 166...." Col. 63 Ln. 11 – 30); a server-side protocol block configured to determine the intent of the encoded and protocol framed request messages (RPC Protocol Manager 176 Col. 61 Ln. 51 – 59, Col. 63 Ln. 16 – 21); a server-side encoding block configured to decode the representations of the data types from the request messages (Step 224 "...decodes..." Col. 63 Ln. 30 – 31); and a server-side presentation block configured to present the data types to a service on the server (RPC Server 186 "...appropriate RPC service handler..." Col. 63 Ln. 43 – 48).

25. As to claim 25, Lev Ran teaches the remote procedure call system as recited in claim 24, wherein the server-side presentation block is further configured to receive response data from the service ("...response tuple..." Col. 63 Ln. 48 – 54); wherein the server-side encoding block is further configured to encode representations of the response data as response messages on the interconnect (Data Encapsulation Layer 164 Col. 63 Ln. 57 – 62); wherein the server-side protocol block is further configured to frame the encodings to denote the intent of the messages (Col. 61 Ln. 53 – 59, Col. 63 Ln. 16 – 19, Col. 65 Ln. 59 – 67, Col. 66 Ln. 1 – 14); and wherein the server-side transport block is further configured to move the encoded and protocol framed

response messages from the server to the client over the interconnect (Col. 66 Ln. 1 – 14).

26. As to claim 37 and 48, see the rejection of claim 24 above.

27. As to claim 38 and 49, see the rejection of claim 25 above.

28. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 7,139,811 B2 to Lev Ran et al. in view of U.S. Pat. No. 6,282,581 B1 to Moore et al. as applied to claim 2 above, and further in view of U.S. Pat. No. 7,028,312 B1 to Merrick et al.

29. As to claim 3, Moore and Lev Ran are silent with reference to the system as recited in claim 2, wherein, to determine the intent of the encoded and protocol framed incoming messages, the protocol block is further configured to determine if the incoming messages are request messages or response messages.

Merrick teaches the system as recited in claim 2, wherein, to determine the intent of the encoded and protocol framed incoming messages, the protocol block is further configured to determine if the incoming messages are request messages or response messages ("...interprets..." Col. 14 Ln. 11 – 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Moore and Lev Ran with the teaching of

Merrick because the teaching of Merrick would improve the system of Moore and Lev Ran by providing a process for determining the appropriate output arguments for a returning responses to a client program (Merrick Col. 14 Ln. 34 – 37).

Response to Arguments

Applicant's arguments with respect to claims 1-11 and 23-57 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Anya whose telephone number is (571) 272-3757. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571) 272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

SUPERVISORY PATENT EXAMINER

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles E Anya
Examiner
Art Unit 2194

cea.